Integrated Solutions for Biologics Development
About LakePharma

LakePharma is the leading US-based biologics contract research, development, and manufacturing organization (CRDMO). The company’s mission is to enable and support the discovery and development of the biologics of tomorrow.

- Hybridoma platform for in vivo discovery
- In vitro phage and yeast display platforms
- Antibody functional characterization
- Epitope binning & mapping

LakePharma Focuses on the Following Main Workstreams

**Antibody discovery, development, and GMP manufacturing**

- **Discovery**
  - Hybridoma platform for in vivo discovery
  - In vitro phage and yeast display platforms
  - Antibody functional characterization
  - Epitope binning & mapping

- **Engineering**
  - Humanization
  - Affinity maturation & measurement
  - Sequence liability identification
  - Therapeutic developability assessment

- **Development**
  - Transient antibody production using TunaCHO™ platform
  - Stable cell line development using proprietary CHO-GSN™
  - Process development

- **Manufacturing**
  - GMP manufacturing
  - Tech transfer
  - Biorepository

**Mammalian recombinant protein engineering to GMP manufacturing**

- **Molecular Construction**
  - Gene synthesis
  - Vector construction and molecular cloning
  - Plasmid DNA production and purification
  - Hybridoma sequencing

- **Production**
  - Transient mammalian expression
  - Purification
  - Transient protein production using proprietary TunaCHO platform
  - Characterization

- **Development**
  - Stable cell line development
  - Upstream and downstream process development

- **Manufacturing**
  - Process transfer, engineering run, and microBiomanufacturing

Top technologies & solutions

- Proprietary TunaCHO transient protein production platform offers productivity as high as 2 g/L
- Proprietary CHO-GSN platform offers robust performance with titer as high as 7 g/L
**Comprehensive Viral Vector Services**

Full capabilities include vector engineering, preclinical process development and scale-up production, and analytical development.

- Lentivirus, AAV, and next-generation vectors
- Mammalian and Baculo production systems
- Multiple technologies and capabilities
- Various tests including titer, purity, and Mycoplasma

**Cell Line Engineering Services**

LakePharma engineers primary cells such as CAR T and other cell lines.

**Non-Mammalian Expression to Production**

LakePharma offers a variety of non-mammalian platforms for small- and large-scale protein production.

- E. coli
- Yeast
- Insect

**Custom Protein Purification and Chemistry Services**

- Custom Purification
- Custom Conjugation
- Custom Reagents for Assays
- Custom Process Development
- Biotinylation

**Custom Assay Development Services**

- Cell-Based Assays
- Biochemical Assays
- Genetic Technology Suite
- Multi-Analyte Array Workflows
- GxP Bioassay Development Workflows
- Radiometric Workflows
### Geographic Footprint

- **LakePharma San Carlos**
- **LakePharma Hayward**
- **LakePharma Worcester**
- **LakePharma Hopkinton**
- **LakePharma Belmont**
- **LakePharma Dallas**

### Working with LakePharma

- **Comprehensive technology platform**
- **Technical consultation with experts specialized in biologics discovery and development**
- **LakePharma’s online client portal—the Data & Process Management System—allows 24/7 access to project information (timelines, data, team communications)**
- **Strong project management with regular project updates**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
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<tbody>
<tr>
<td>Employees</td>
<td>~250</td>
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<tr>
<td>Employees with PhDs or MS</td>
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<td>Square footage of facility space</td>
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